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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/619,965	07/15/2003	Shigeo Takagi	U 014718-7	7790
7590	09/20/2005		EXAMINER	
Ladas & Parry 26 West 61st Street New York, NY 10023			SAID, MANSOUR M	
			ART UNIT	PAPER NUMBER
			2673	

DATE MAILED: 09/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/619,965	<b>Applicant(s)</b> TAKAGI ET AL.	
	<b>Examiner</b> MANSOUR M. SAID	<b>Art Unit</b> 2673	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 August 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>9/2/03</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Claim Objections***

1. **Claims 6-8 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim 5. See MPEP § 608.01(n). Accordingly, the claims 6/5, 7/5 and 8/5 not been further treated on the merits.**

2. Claim 4 is objected to because of the following informalities: claim 4, line 4, the phrase “therebefore” should be changed to –there before-. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 4 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claim 4, the claimed limitations “ θ before” immediately there before” is not clear. Appropriate explanation is needed.

***Claim Rejections - 35 USC § 103***

**5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:**

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**6. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rafii et al. (2002/0140633; hereinafter referred as to Rafii) in view of Culver (6,300,938 B1).**

As to claim 1, Rafii teaches a rotational-operation-quantity input device for inputting an operation quantity indicating a predetermined rotation angle (rotate virtual knob, (figures 2-3)) (column 5, paragraph 0050 and column 5, paragraph 0052), comprising a two-dimensional sensor (detector) for inputting an operational applied by an operator in time series as a coordinate value (x, y) in an XY two-dimensional (three-dimensional (x, y, z) rectangular coordinate system (figures 1-5, column 3, paragraph 0031, column 3, paragraph 0065, lines 13-21, column 5, paragraph 0053, and column 7, paragraph 0069); a polar-coordinate converting section for sequentially converting the coordinate value (x, y) in the rectangular coordinate system given in time series into a coordinate value (r,  $\theta$ ) in a polar coordinate system (figures 1-4, column 4, paragraph 0046, column 5, paragraph 0053 and column 6, paragraph 0054-0064); and an operation-quantity recognizing section for recognizing a variation in a value  $\theta$  of the coordinate value (r,  $\theta$ ) obtained in time series as an operation quantity indicating a rotation angle (figures 1-4, column 4, paragraph 0046, column 5, paragraph 0053 and column 6, paragraph 0054-0064).

Rafii does not expressly teach a force sensor for inputting an operational force applied by an operator.

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However, Culver teaches a force sensor for inputting an operational force applied by an operator (figures 1-3 and 8-11, column 2, lines 53-67, column 5, lines 3-13, column 9, line 65 through column 10, line 33).

Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to incorporate Culver's device having a force sensor into Rafii's system so as to provide degree of freedom for the input device (column 3, lines 1-6).

As to **claim 2**, Rafii teaches wherein the operation-quantity recognizing section recognizes the coordinate value  $(r, \theta)$  as a significant coordinate value when value  $r$  of the coordinate value  $(r, \theta)$  is larger than a predetermined threshold  $r_t$  (figures 1-4, column 4, paragraph 0046, column 5, paragraph 0053 and column 6, paragraph 0054-0064), and recognizes an operation quantity based on a variation in a value  $\theta$  in consideration of only a significant coordinate value  $(r, \theta)$  (figures 1-4, column 4, paragraph 0046, column 5, paragraph 0053 and column 6, paragraph 0054-0064).

As to **claim 3**, Rafii teaches wherein the operation-quantity recognizing section recognizes an operation quantity based on a variation in value  $\theta$  during a continuous period when a significant coordinate value  $(r, \theta)$  is obtained continuously (figures 1-4, column 4, paragraph 0046, column 5, paragraph 0053 and column 6, paragraph 0054-0064).

As to **claim 4**, as best understood, Rafii teaches wherein, when a value  $\theta$  generates a variation  $(\Delta, \theta)$  exceeding a predetermined threshold.  $(\theta, t)$  with respect to a value " $\theta$  before" immediately there before during a continuous period during which a significant coordinate value  $(r, \theta)$  is obtained continuously, the operation-quantity recognizing section recognizes a value corresponding to the variation  $(\Delta, \theta)$  as an operation quantity (figures 1-4, column 4, paragraph

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0046, column 5, paragraph 0053 and column 6, paragraph 0054-0064).

As to **claim 5**, Rafii teaches wherein the two-dimensional force sensor includes a sensor body, an operating panel that can be inclined in an X-axis direction and in a Y-axis direction independently of each other with respect to the sensor body (figures 1-5, column 3, paragraph 0031, column 3, paragraph 0065, lines 13-21, column 5, paragraph 0053, and column 7, paragraph 0069), and detection means for detecting a coordinate value x and a coordinate value y based on a degree of an inclination in the X-axis direction and in the Y-axis direction of the operating panel (figures 1-5, column 3, paragraph 0031, column 3, paragraph 0065, lines 13-21, column 5, paragraph 0053, and column 7, paragraph 0069).

### *Conclusion*

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Levin et al. (6,686,911 B1) teach a control knob with control modes and force feedback.

Jaeger et al. (2002/0060670 A1) teach a circuit control device utilizing electronic display screen light.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mansour M. Said

whose telephone number is 571-272-7679. The examiner can normally be reached on Monday through Friday from 7:00 A.M. to 5:30 P.M. If attempts to reach the examiner by

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telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala whose telephone number is 571-272-7681.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:


571-273-8300 (for Technology Center 2600 only)

Hand-delivered responses should be brought to the Customer Service Window at the Randolph Building, 401, Dulany Street, Alexandria, VA 22314.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Mansour M. Said

9/12/05

  
Ricardo Osorio  
PRIMARY EXAMINER